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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,021	09/23/2005	Yasushi Tohi	1155-0311PUS1	3856
2292 7590 05/01/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
LU, C CAIXIA				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
05/01/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/550,021

Applicant(s)

TOHI ET AL.

Examiner

Caixia Lu

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2007 has been entered.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa et al. (US 6,207,774).

Hasegawa's Examples 10 and 11 bridging col. 8 and col. 9 disclose the copolymerization process of ethylene and hexene in the presence of diphenylmethylenecyclopentadienyl(2,7-dimethylfluorenyl)zirconium dichloride/diphenylmethylenecyclopentadienyl(2,7-di-*t*-butylfluorenyl)zirconium dichloride, triisobutylaluminum, N,N-dimethylanilinium tetrakis(pentafluorophenyl) borate. While only the borate cocatalyst is exemplified, Hasegawa does expressly disclose aluminate as functionally equivalent cocatalyst and those aluminate listed in line 14 of col. 5 to line 4 of col. 6 are organoaluminum compounds. One of the ordinary skill in the art would immediately envision using the functionally equivalent aluminate cocatalyst to replace

the borate cocatalyst to conduct the ethylene copolymerization as shown in Hasegawa's Examples 10 and 11. Therefore, Hasegawa's teaching anticipates claim 1.

4. Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Tohi et al. (US 2006/0161013).

At least Tohi's Examples 35, 36, 38, 41, and 46 demonstrate the ethylene/hexene copolymerization in the presence metallocene complexes such as diphenylmethylene(η^5 -cyclopentadienyl)(η^5 -2,7-di-tert-butylfluorenyl) zirconium dichloride and diphenylmethylene(η^5 -cyclopentadienyl)(η^5 -octamethyloctahydro-dibenzofluorenyl) zirconium dichloride. It is noted that the polymerization in those example are conducted at 80°C rather than in the range of 120-300°C of the instant claims. However, Tohi expressly disclose the preferred polymerization temperature to be in the range of 0°C to 170°C, thus, a skilled artisan would immediately envision conducting the ethylene-hexene polymerization process demonstrated in those working examples in the temperature range of 120-170 °C. Therefore, Tohi's copolymerization processes anticipate the instant claims.

Response to Arguments

5. Applicant's arguments filed October 4, 2007 have been fully considered but they are not persuasive.

Applicants argue that Hasegawa does not disclose an organoaluminum compound cocatalyst. This is incorrect. As indicated in the rejections above, Hasegawa expressly discloses aluminate cocatalysts (line 14 of col. 5 to line 4 of col. 6)

which are functionally equivalent to borate and meet the limitation (B) of the instant claims.

Applicants' assertion, Tohi et al. (US 2006/0161013) can not cited as prior art under 35 USC 102(e), is erroneous. While the PCT application of US 2006/0161013, WO 2004/029062 published on April 8, 2004, is a proper prior art under 35 USC 102(a), US 2006/0161013 is a proper prior art under 35 USC 102(e) since US 2006/0161013 is published after the filing date of the instant application, however, filed prior to the filing date of the instant application. Because the rejection is properly made under 35 USC 102(e) over the teaching US 2006/0161013, the foreign priority date of the instant application of March 31, 2004 is not prior to the filing date of February 17, 2003 of US 2006/0161013, providing a certified English translation of the priority document will not overcome the rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached on 9:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Caixia Lu/
Caixia Lu, Ph. D.
Primary Examiner
Art Unit 1796